

PATENT COOPERATION TREATY

PCT

INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY
(Chapter II of the Patent Cooperation Treaty)

(PCT Article 36 and Rule 70)

Applicant's or agent's file reference 03-F-049PCT	FOR FURTHER ACTION		See Form PCT/IPEA/416
International application No. PCT/JP2003/010164	International filing date (day/month/year) 08 August 2003 (08.08.2003)	Priority date (day/month/year) 08 August 2002 (08.08.2002)	
International Patent Classification (IPC) or national classification and IPC C23C 8/26, C22C 38/00			
Applicant NATIONAL INSTITUTE FOR MATERIALS SCIENCE			

- This report is the international preliminary examination report, established by this International Preliminary Examining Authority under Article 35 and transmitted to the applicant according to Article 36.
- This REPORT consists of a total of 3 sheets, including this cover sheet.
- This report is also accompanied by ANNEXES, comprising:
 - ☒ (sent to the applicant and to the International Bureau) a total of 4 sheets, as follows:
 - ☒ sheets of the description, claims and/or drawings which have been amended and are the basis of this report and/or sheets containing rectifications authorized by this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions).
 - ☐ sheets which supersede earlier sheets, but which this Authority considers contain an amendment that goes beyond the disclosure in the international application as filed, as indicated in item 4 of Box No. I and the Supplemental Box.
 - ☐ (sent to the International Bureau only) a total of (indicate type and number of electronic carrier(s)) _____, containing a sequence listing and/or tables related thereto, in computer readable form only, as indicated in the Supplemental Box Relating to Sequence Listing (see Section 802 of the Administrative Instructions).

- This report contains indications relating to the following items:

- ☒ Box No. I Basis of the report
- ☐ Box No. II Priority
- ☐ Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- ☐ Box No. IV Lack of unity of invention
- ☒ Box No. V Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- ☐ Box No. VI Certain documents cited
- ☐ Box No. VII Certain defects in the international application
- ☐ Box No. VIII Certain observations on the international application

Date of submission of the demand 04 March 2004 (04.03.2004)	Date of completion of this report 01 December 2004 (01.12.2004)
Name and mailing address of the IPEA/JP	Authorized officer
Facsimile No.	Telephone No.

INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

International application No.

PCT/JP2003/010164

Box No. I Basis of the report

1. With regard to the language, this report is based on the international application in the language in which it was filed, unless otherwise indicated under this item.

- ☐ This report is based on translations from the original language into the following language _____, which is language of a translation furnished for the purpose of:
- ☐ international search (under Rules 12.3 and 23.1(b))
 - ☐ publication of the international application (under Rule 12.4)
 - ☐ international preliminary examination (under Rules 55.2 and/or 55.3)

2. With regard to the elements of the international application, this report is based on *(replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report)*:

☐ The international application as originally filed/furnished

☒ the description:
 pages _____ 1, 5, 6 _____, as originally filed/furnished
 pages* _____ 2-4 _____ received by this Authority on 19 November 2004 (19.11.2004)
 pages* _____ received by this Authority on _____

☒ the claims:
 pages _____ 2 _____, as originally filed/furnished
 pages* _____, as amended (together with any statement) under Article 19
 pages* _____ 1 _____ received by this Authority on 19 November 2004 (19.11.2004)
 pages* _____ received by this Authority on _____

☒ the drawings:
 pages _____ 1-8 _____, as originally filed/furnished
 pages* _____ received by this Authority on _____
 pages* _____ received by this Authority on _____

☐ a sequence listing and/or any related table(s) – see Supplemental Box Relating to Sequence Listing.

3. ☒ The amendments have resulted in the cancellation of:

- ☐ the description, pages _____
- ☒ the claims, Nos. _____ 3 _____
- ☐ the drawings, sheets/figs _____
- ☐ the sequence listing (*specify*): _____
- ☐ any table(s) related to sequence listing (*specify*): _____

4. ☐ This report has been established as if (some of) the amendments annexed to this report and listed below had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).

- ☐ the description, pages _____
- ☐ the claims, Nos. _____
- ☐ the drawings, sheets/figs _____
- ☐ the sequence listing (*specify*): _____
- ☐ any table(s) related to sequence listing (*specify*): _____

* If item 4 applies, some or all of those sheets may be marked "superseded."

INTERNATIONAL PRELIMINARY EXAMINATION REPORT

International application No.

PCT/JP 03/10164

V. Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Claims	1, 2	YES
	Claims		NO
Inventive step (IS)	Claims		YES
	Claims	1, 2	NO
Industrial applicability (IA)	Claims	1, 2	YES
	Claims		NO

2. Citations and explanations

Document 1: JP 7-188733 A (Hans Berns), 25 July 1995
 Document 2: JP 51-10121 A (Allegheny Ludlum Ind., Inc.),
 27 January 1976
 Document 3: JP 5-311336 A (Nikkou Kinzoku Kabushiki
 Kaisha), 22 November 1993

The inventions that are set forth in claims 1 and 2 do not involve an inventive step in the light of documents 1-3. It would be easy for a person skilled in the art to employ the inert atmosphere comprising nitrogen that is taught in document 3 as the nitrogen-containing gas atmosphere that is taught in document 1. In addition, it is not seen to be technically difficult for a person skilled in the art to employ the feature that is taught in document 2 (specifically, refer to page 5, lower left column), wherein nitridation and diffusion are conducted as necessary in order to austenitize the entire cross section, as is appropriate according to the desired product.